

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 5, 8, 9, 11, 12, 14, 15, 18, 20, 23, 24, 25, 29, 30, 34, 38 and 39 as follows.

1. (Currently Amended) In an electronic device interfaced with a display surface, a method, comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, ~~said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user, and~~

enabling a user to select one or more of said differences; and

programmatically merging said determined selected one or more differences by copying said determined selected one or more differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

2. (Original) The method of claim 1 wherein said programmatically merging differences comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

3. (Original) The method of claim 2, comprising the further step of:

cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced.

4. (Original) The method of claim 3 wherein only said child data elements are replaced.

5. (Currently Amended) In an electronic device interfaced with a display surface, a method, comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams; ~~and~~

~~programmatically merging differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram;~~

categorizing said differences between said two electronic diagrams as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user;

copying all of said functional differences from said selected one of said two electronic diagrams;

copying less than all of said graphical differences from said selected one of said two electronic diagrams; and

inserting the copied functional differences and graphical differences into corresponding sections of said other electronic diagram, said copied functional and graphical differences being inserted in the corresponding section of said other electronic diagram.

6. (Original) The method of claim 5, comprising the further steps of:

cascading hierarchically the replacement of data elements in said other electronic diagram wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements in said other electronic diagram being replaced when said parent data element is replaced.

7. (Original) The method of claim 5, comprising the further steps of:

cascading hierarchically the replacement of data elements in said other electronic diagram, wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements of corresponding parent data elements in said two electronic diagrams being replaced without replacing the corresponding parent data element.

8. (Currently Amended) The method of claim 1, comprising the further steps of:

highlighting the differences in said electronic diagrams for a user on a said display surface ~~of a display device~~, said display surface showing both of said diagrams; and

updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram.

9. (Currently Amended) In an electronic device interfaced with a display surface, a method, comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams; and

programmatically merging differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram;

determining a distance on said display surface from an endpoint of a line to an updated connection point for a block in said other electronic diagram, said updated connection point being the connection point of a said line and a said block following a merge operation;

comparing said distance to a pre-defined parameter, said pre-defined parameter being a distance value;

extending said displayed ~~arrowed~~ line to said updated connection point when said distance is less than said pre-defined parameter.

10. (Original) The method of claim 9, comprising the further step of:

replacing said line with a new line drawn to said updated connection point when said distance is at least as large as said pre-defined parameter.

11. (Currently Amended) The method of claim 1, comprising the further steps of:

presenting said differences in said electronic diagrams on a said display surface of a display device, said display surface split to show both of said electronic diagrams;

highlighting a difference item in said selected one of said two electronic diagrams;

highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

12. (Currently Amended) The method of claim 11 comprising the further step of:

replacing a data element in a said highlighted difference item in said other electronic diagram, said data element being a child data element in said other electronic diagram, said data element being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto.

13. (Previously Presented) The method of claim 1, wherein said two electronic diagrams are one of block diagrams, state diagrams, signal diagrams, flow chart diagrams, sequence diagrams, UML diagrams, dataflow diagrams, circuit diagrams, ladder logic diagrams and Kinematic element diagrams.

14. (Currently Amended) The method of claim 1, wherein said electronic diagrams depict multiple domains.

15. (Currently Amended) In an electronic device, a method, comprising the steps of:

providing two state diagrams of a system, said state diagrams having blocks joined with lines, each of said blocks representing states in a system, said lines representing transitions between said states, said transitions taking place upon the occurrence of a specified event;

determining corresponding features of said state diagrams that are present in both of said state diagrams;

determining differences between said state diagrams, ~~said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user, and wherein said differences are recorded as a list of data elements;~~ and

enabling a user to select one or more of said differences; and

merging said selected one or more differences from a selected one of said state diagrams into the other of said state diagrams, said merging step including the step of copying said selected one or more differences from the selected one of said state diagrams and inserting said selected one or more differences in said other state diagram.

16. (Original) The method of claim 15 wherein said merging differences comprises the further steps of:

replacing data elements of said other state diagram with copied differences of data elements from said selected one of said state diagrams.

17. (Currently Amended) The method of claim 15, comprising the further steps of:

categorizing said corresponding features as functional features and graphical features, said functional features controlling the performance of the system represented by said state diagram, said graphical features affecting the appearance of said state diagram displayed to a user;

determining differences in said functional features and said graphical features of said state diagrams;

copying all of said differences in functional features from said selected one of said state diagrams;

copying less than all of said differences in graphical features from said selected one of said state diagrams; and

inserting the copied functional feature differences and graphical feature differences into corresponding sections of said other state diagram, ~~said copied differences replacing data elements in~~ the corresponding section of said other state diagram.

18. (Currently Amended) In a network that includes an electronic device, said electronic device interfaced with a display surface, a method, comprising the steps of:

retrieving over said network two electronic diagrams, said electronic diagrams having blocks joined with lines and including at least one semantic connection, said semantic connection associating components within the same system in said electronic diagram without a direct connection in said diagram between the components, each of said blocks including connection points where said lines join said blocks;

displaying said electronic diagrams to a user on said display surface;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, said differences being recorded as a list of data elements;

enabling a user to select one or more of said differences; and

merging said selected one or more differences from a selected one of said electronic diagrams into the other of said electronic diagrams, said merging step including the step of copying said selected one or more differences from the selected one of said electronic diagrams and inserting said selected one or more differences in the other of said electronic diagrams.

19. (Currently Amended) The method of claim 18, comprising the further steps of:

categorizing said differences between said electronic diagrams as functional differences and graphical differences, said functional differences controlling the performance of the system represented by said electronic diagram, said graphical differences affecting the appearance of said block diagram displayed to a user;

copying all of said functional differences from selected one of said two electronic diagrams;

copying less than all of said graphical differences from said other electronic diagram; and

inserting the copied functional differences and graphical differences into corresponding sections of said other electronic diagram, said copied graphical and functional differences replacing data elements in the corresponding section of said other electronic diagram.

20. (Currently Amended) In an electronic device interfaced with a display surface, a medium holding computer-executable instructions for a method, said method comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system, said blocks connected by lines;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, ~~said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user, and~~

enabling a user to select one or more of said differences; and

programmatically merging said determined selected one or more differences by copying said determined selected one or more differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

21. (Original) The medium of claim 20 wherein the step of merging differences in said method comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

22. (Original) The medium of claim 20 wherein said method comprises the further step of:

categorizing said differences between said two electronic diagrams as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user;

copying all of said functional differences from said selected one of said two electronic diagrams;

copying less than all of said graphical differences from said selected one of said two electronic diagrams; and

inserting the copied functional differences and graphical differences into corresponding sections of said other electronic diagram, said copied functional and graphical differences being inserted in the corresponding section of said other electronic diagram.

23. (Currently Amended) The medium of claim 20 wherein said method comprises the additional steps of:

determining differences ~~in~~ between at least one additional electronic diagram and said other electronic diagram; and

merging said differences from at least one additional electronic diagram into said other electronic diagrams diagram.

24. (Currently Amended) The medium of claim 20 wherein said ~~method comprises the additional steps of:~~

~~determining differences in at least one additional electronic diagram; and~~

~~merging said differences from at least one additional electronic diagram into a single electronic diagram, said single other electronic diagram being is stored in a configuration management system.~~

25. (Currently Amended) In an electronic device interfaced with a display surface, a method, comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system and including at least one semantic connection, said semantic connection associating components within the same system in said electronic ~~diagram~~ diagrams without a direct connection in said ~~diagram~~ diagrams;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams;

enabling a user to select one or more of said differences; and

programmatically merging said selected one or more differences copied from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

26. (Previously Presented) The method of claim 25 wherein said programmatically merging differences comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

27. (Previously Presented) The method of claim 26, comprising the further step of:

cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced.

28. (Previously Presented) The method of claim 27 wherein only said child data elements are replaced.

29. (Currently Amended) The method of claim 25, comprising the further steps of:

highlighting the differences in said electronic diagrams for a user on a said display surface ~~of a display device~~, said display surface showing both of said diagrams; and

updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram.

30. (Currently Amended) The method of claim 25, comprising the further steps of:

presenting said differences in said electronic diagrams on a said display surface ~~of a display device~~, said display surface split to show both of said electronic diagrams;

highlighting a difference item in said selected one of said two electronic diagrams;

highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

31. (Previously Presented) The method of claim 30 comprising the further step of:

replacing a data element in a highlighted difference item in said other electronic diagram, said data element being a child data element in said other electronic diagram, said data element being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto.

32. (Previously Presented) The method of claim 25, wherein said two electronic diagrams are one of block diagrams, state diagrams, signal diagrams, flow chart diagrams, sequence diagrams, UML diagrams, dataflow diagrams, circuit diagrams, ladder logic diagrams and Kinematic element diagrams.

33. (Previously Presented) The method of claim 25, wherein said electronic diagrams depict multiple domains.

34. (Currently Amended) In an electronic device interfaced with a display surface, said electronic device including a medium holding executable steps for a method, said method comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system and including at least one semantic connection, said semantic connection associating components in said electronic diagram without a direct connection in said diagram;

determining corresponding features of said electronic diagrams that are present in both of said electronic diagrams;

determining differences between said electronic diagrams, ~~said differences categorized as functional differences and graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user, and~~

enabling a user to select one or more of said differences; and

programmatically merging said determined selected one or more differences by copying said determined selected one or more differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

35. (Previously Presented) The medium of claim 34 wherein said programmatically merging differences comprises the further step of:

replacing data elements of said other electronic diagram with copied differences from said selected one of said two electronic diagrams.

36. (Previously Presented) The medium of claim 35 wherein said method comprises the further step of:

cascading hierarchically the replacement of data elements wherein said data elements being replaced are arranged in a tree structure, said tree structure having parent data elements with child data elements attached thereto, said child data elements being replaced when said parent data element is replaced.

37. (Previously Presented) The medium of claim 36 wherein only said child data elements are replaced.

38. (Currently Amended) The medium of claim 34 wherein said method comprises the further steps of:

highlighting the differences in said electronic diagrams for a user on a said display surface ~~of a display device~~, said display surface showing both of said diagrams; and

updating said display surface following the performance of said merging operation, said updating showing the differences copied to said other electronic diagram.

39. (Currently Amended) The medium of claim 34 wherein said method comprises the further steps of:

presenting said differences in said electronic diagrams on a said display surface ~~of a display device~~, said display surface split to show both of said electronic diagrams;

highlighting a difference item in said selected one of said two electronic diagrams;

highlighting a difference item in said other electronic diagram that corresponds to the matching highlighted difference in said selected one of said two electronic diagrams; and

replacing the highlighted difference item in said other electronic diagram with a copy of the highlighted difference item from said selected one of said two electronic diagrams.

40. (Previously Presented) The medium of claim 39 wherein said method comprises the further step of:

replacing a data element in a highlighted difference item in said other electronic diagram, said data element being a child data element in said other electronic diagram, said data element

being part of a tree structure, said tree structure having parent data elements with child data elements attached thereto.

41. (Previously Presented) The medium of claim 34 wherein said two electronic diagrams are one of block diagrams, state diagrams, signal diagrams, flow chart diagrams, sequence diagrams, UML diagrams, dataflow diagrams, circuit diagrams, ladder logic diagrams and Kinematic element diagrams.

42. (Previously Presented) The medium of claim 34 wherein said electronic diagrams depict multiple domains.

Please add new claims 43-47 as follows.

43. (New) The method of claim 1, further comprising the step of:

categorizing said differences as functional differences or graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user,

wherein the step of enabling comprises the step of enabling a user to select at least one of said functional differences or graphical differences,

wherein the step of merging comprises the step of copying said selected one of said functional differences or graphical differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

44. (New) The method of claim 15, further comprising the step of:

categorizing said differences as functional differences or graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user,

wherein the step of enabling comprises the step of enabling a user to select at least one of said functional differences or graphical differences,

wherein the step of merging comprises the step of copying said selected at least one of said functional differences or graphical differences from a selected one of said state diagrams and inserting said selected at least one of said functional differences or graphical differences into the other of said state diagrams.

45. (New) The medium of claim 20, wherein the method further comprises the step of:

categorizing said differences as functional differences or graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user,

wherein the step of enabling comprises the step of enabling a user to select at least one of said functional differences or graphical differences,

wherein the step of merging comprises the step of copying said selected one of said functional differences or graphical differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

46. (New) The medium of claim 34, wherein the method further comprises the step of:

categorizing said differences as functional differences or graphical differences, said functional differences controlling the performance of a system represented by said electronic diagram, said graphical differences affecting the appearance of said electronic diagram displayed to a user,

wherein the step of enabling comprises the step of enabling a user to select at least one of said functional differences or graphical differences,

wherein the step of merging comprises the step of copying said selected one of said functional differences or graphical differences from a selected one of said two electronic diagrams into the other of said electronic diagrams at a corresponding location in said other electronic diagram.

47. (New) In an electronic device, a method comprising the steps of:

providing two electronic diagrams, said electronic diagrams having blocks representing components of a system;

determining corresponding features of said two electronic diagrams, wherein said corresponding features including features of said blocks and features of connections between said blocks;

determining differences between said electronic diagrams,

enabling a user to select one or more of said differences; and

programmatically merging said selected one or more differences by copying said selected one or more differences from a selected one of said two electronic diagrams into the other of